6 second Implosion Was Years in the Making

It took less than six seconds for hundreds of synchronized blasts to flatten the old Bay Bridge's largest concrete pier. But it took years of preparation and collaboration with permitting agencies to ensure the implosion went smoothly, safely and with minimal impact to wildlife and the sensitive environment of San Francisco Bay.

Early in the morning on Nov. 14, nearly *600 controlled charges* weakened the 50 feet of Pier E3 which stood from the bay floor to the waterline, allowing gravity to collapse the tower into its hollow casing below the mudline.

Eight different public agencies permitted the implosion, including the California Department of Fish and Wildlife, the National Marine Fisheries, the National Oceanographic and Atmospheric Administration, the Bay Area Conservation and Development Commission and the U.S. Army Corps of Engineers.

Their input and assistance were crucial. Data collected over the next several months will be compiled into a report to assist in determining if Caltrans will seek additional approvals to implode some or all of the remaining 21 piers from the old east span.

While there is much still to be analyzed, many goals were met by Caltrans, its contractors and participating and permitting agencies:

- The implosion occurred during the target month of November, the month with the least environmental impact, including the fewest marine animals present.
- The blast attenuation system, or "bubble curtain," which is estimated to cut down the pressure waves from the charges by about 80 percent, was successfully deployed.
- Dozens of environmental and biological experts carefully monitored areas surrounding the blast zone, verifying large animals were not nearby during the implosion.
- The brief traffic stop on the Bay Bridge and BART trains in the Transbay Tube protected the public from distraction.

An implosion using explosive charges was determined to be easier on the San Francisco Bay wildlife than any other form of demolition. Mechanical removal would have required the pounding of almost 400 piles to build a watertight wall around the pier that could be pumped dry for workers. Disruptive operations would have lasted nearly four years.

November is the best time for such operations, because it is when the fewest animals are present. There are typically no salmon runs, bird nesting or herrings at that time. Multiple wildlife experts were positioned around the site, monitoring before, during and after the implosion. Detection of a marine mammal would have halted the operation.

In the weeks following the implosion, updates were expected on the following:

- Three-dimensional imaging of what it looks like on the bay floor. This data is pivotal to assessing the effectiveness of the implosion, and how much, if any, debris needs to be picked up from outside the remainder of Pier E3 and placed inside the hollow structure.
- The effect of the implosion forces on fish and wildlife.
- The composition of the dust cloud created by the implosion.
- If the traffic and BART stops will be necessary for future potential implosions.

Based on these reports, Caltrans will determine whether to seek environmental permits needed to use this demolition method on additional piers.

Source: District 4
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